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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,583	06/25/2003	Kai Y. Xu	P72864US0	5808

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EXAMINER	
SKELDING, ZACHARY S	

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1644	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/607,583	XU, KAI Y.	
	Examiner	Art Unit	
	ZACHARY SKELDING	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 7-47* is/are pending in the application.

4a) Of the above claim(s) *8-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment to the claims and remarks filed October 6, 2008 are acknowledged.

   Claims 1, 3, 4 and 7 have been amended.

   Claims 2, 5 and 6 have been canceled.

   Claims 1, 3, 4, and 7-47 are pending.

   Claims 8-47 have been withdrawn from further consideration by the examiner, under 37 C.F.R. § 1.142(b), as being directed to a non-elected invention.

   Claims 1, 3, 4 and 7 are under examination as they read on a therapeutically effective composition comprising: a therapeutically active isolated and purified antibody which specifically binds to an amino acid sequence RSATEEEPPNDD (SEQ ID NO: 1) of the α-subunit of $(Na^{+}+K^{+})$-ATPase enzyme and cardiac isoforms thereof, wherein binding of the antibody to the amino acid sequence, RSATEEEPPNDD (SEQ ID NO: 1), of the α-subunit of $(Na^{+}+K^{+})$-ATPase increases myocyte intracellular diastolic and systolic calcium.

2. The previous rejections of record can be found in the Office Action mailed June 6, 2008.

   This Office Action is in response to applicant's amendment to the claims and remarks filed October 6, 2008.

   New Grounds of Rejection are set forth below.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

   > The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a New Matter Rejection.

   Claim 1 recites "cardiac isoforms".

   The phrase "cardiac isoforms" claimed in claim 1, line 4 represents a departure from the specification and the claims as originally filed.

The specification does not appear to provide blazemarks nor direction for "cardiac isoforms". Such a limitation recited in the instant claim, which did not appear in the specification as filed, introduces a new concept and violates the description requirement of the first paragraph of 35 U.S.C. 112. Applicant is now claiming a subgenus not sufficiently supported by the specification as-filed.

It cannot be said that a subgenus is necessarily described by a genus encompassing it and a species upon which it reads. See In re Smith 173 USPQ 679, 683 (CCPA 1972) and MPEP 2163.05.

Applicant is required to cancel the new matter in the response to this Office action.

Alternatively, applicant should indicate in detail how the instant specification provides written support for the claimed limitation. See MPEP 714.02 and 2163.06.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112.

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "and cardiac isoforms thereof" in claim 1 lacks sufficient antecedent basis in that it is unclear if this refers to "cardiac isoforms of the sequence RSATEEEPPNDD" or "cardiac isoforms of the α-subunit of (Na^++K^+)-ATPase enzyme".

This is especially indefinite in light of the disclosure of the instant specification regarding "isoforms" and the use of this term by the skilled artisan.

On the one hand the instant specification discloses at page 7, 3rd paragraph "The Jianye-2 peptide (comprising or consisting of sequence RSATEEEPPNDD) as disclosed herein is a particularly preferred peptide. Isoforms (e.g. differing in sequence by 1, 2, 3,4, 5, 6,7, 8, 9 or 10 amino acids, preferably 1, 2,3, 4, 5, 6, 7 or 8 amino acid differences, more preferably 1, 2, 3, or 4 amino acid differences) of the Jianye-2 peptide also are preferred and those amino acid differences may reflect differences among species."

Based on this disclosure an "isoform" insofar as it refers to "the Jianye-2 peptide" would be interpreted as being any sequence that differs by one amino acid to all amino acids in comparison to "the Jianye-2 peptide".

On the other hand, the skilled artisan often considers the term "isoform" to refer to different versions of a gene found in the same species (see, e.g., Arystarkhova et al., J Biol Chem.

1992 Jul 5;267(19):13694-701, in particular Fig. 7, of record). Thus, the term "isoform" insofar as it refers to "the α-subunit of (Na^++K^+)-ATPase enzyme" would be considered to read on different versions of "the α-subunit of (Na^++K^+)-ATPase enzyme" gene found in those species of animal having "the α-subunit of (Na^++K^+)-ATPase enzyme" gene.

Furthermore, insofar as the claimed "isoform" refers to an isoform of the "Jianye-2 peptide" as defined by the instant specification, the instant specification provides no guidance or direction for what constitutes a "cardiac isoform". The skilled artisan would not know what particular 1, 2, 3,4, 5, 6,7, 8, 9 or 10 amino acid changes in the Jianye-2 peptide create an isoform considered to be a cardiac isoform versus a non-cardiac isoform.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 1, 3 and 4 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the recited composition for treatment of heart failure ***does not reasonably provide enablement*** for the recited composition for prevention of heart failure. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention commensurate in scope with this claim.

Factors to be considered in determining whether undue experimentation is required to practice the claimed invention are summarized *In re Wands* (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). The factors most relevant to this rejection are the scope of the claim, the amount of direction or guidance provided, the lack of sufficient working examples, the unpredictability in the art and the amount of experimentation required to enable one of skill in the art to practice the claimed invention.

The instant claims read on a therapeutically effective composition comprising antibodies wherein binding of the antibody to the amino acid sequence RSATEEEPPNDD (SEQ ID NO:l) of the α-subunit of (Na^++K^+)-ATPase exerts a positive inotropic effect…for treatment ***and prevention of heart failure***.

The instant specification discloses that the Jiayne-2 antibody which was raised against the RSATEEEPPNDD sequence induces a positive inotropic effect on mouse heart in vivo and on isolated rat cardiac myocytes in vitro and also binds to monkey CV-1 cells in vitro. (see instant specification, in particular, pages 43 and 44).

The instant specification discloses in the paragraph bridging pages 11-12 that "'Treatment' or 'therapy' as used herein also refers to administering, to an individual patient, agents that are capable of eliciting a prophylactic, curative or other beneficial effect in the individual."

The knowledge in the art of prophylactically treating heart failure or treating the effects of heart failure with an agent that increases the ability of the heart to pump blood, such as a positive inotropic agent, is moderate (see, for example, ACTION HF, consensus recommendations for heart failure, Am J Cardiol, 1999: 83(2A): 1A-38A, in particular, pages 9A and 10A).

However, there is no reasonable scientific basis or objective evidence provided in the instant specification or in the knowledge in the art to indicate that the claimed composition could "prevent heart failure" given the breadth of meaning encompassed by this phrase.

Webster's New World Dictionary defines "prevent" as to make impossible by prior action and keep from happening (see Third College Edition, 1988, see page 1067). Moreover, one of ordinary skill in the medical therapeutic art would consider "preventive treatments" as encompassing in its breadth everything from delaying to absolutely blocking the future manifestation of disease.

As such, the claimed composition given its broadest reasonable interpretation consistent with the instant specification and with the plain meaning of this phrase to one of skill in the art, has the ability to stop heart failure from ever occurring in any patient receiving it.

However, the instant specification does not demonstrate that the claimed composition can stop heart failure from ever occurring in any patient receiving it. Moreover, given the complexity of factors that predispose to heart failure, many of which only indirectly lead to the defective ability of the heart to pump blood (see ACTION HF, consensus recommendations for heart failure, Am J Cardiol, 1999: 83(2A): 1A-38A, in particular, pages 2A-3A), the skilled artisan would have no reasonable scientific basis to believe that inducing positive inotropic effect on heart myocytes would somehow prevent the disease from occurring.

Thus, the instant specification provides insufficient direction or guidance for therapeutically effective composition comprising antibodies wherein binding of the antibody to the amino acid sequence RSATEEEPPNDD (SEQ ID NO:l) of the α-subunit of (Na^++K^+)-ATPase exerts a positive inotropic effect…for… prevention of heart failure.

The scope of the claims must bear a reasonable correlation with the scope of enablement. *In re Fisher*, 166 USPQ 18(CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

In view of the quantity of experimentation necessary, the unpredictability of the art, the lack of sufficient guidance in the specification, the limited working examples, and the limited amount of direction provided given the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

9. The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 3, 4, and 7 stand rejected under 35 U.S.C. 102(b) as anticipated by Arystarkhova et al., (J Biol Chem. 1992 Jul 5;267(19):13694-701) as evidenced by Bost et al. (Immunol. Invest. 1988; 17:577-586), Bendayan et al. (J. Histochem. Cytochem. 1995; 43:881-886) and the instant specification at page 3, 3rd paragraph and page 43-44, essentially for the reasons of record as put forth in the Office Action mailed June 6, 2008.

Applicant argues, in essence, that Arystarkhova does not teach an antibody against the α-subunit of porcine (Na^++K^+)-ATPase which has the same structure or the same function as the claimed antibodies. Applicant further argues that the prior art teachings do not provide sufficient evidence that the antibody of Arystarkhova inherently has the same properties as the claimed antibody. Applicant also makes a number of assertions about the teachings of Arystarkhova and draws some conclusions about the teachings of the prior art based on their assertions.

Applicant's arguments have been considered, but have not been found convincing, essentially for the reasons of record as put forth in the Office Action mailed June 6, 2008.

With respect to applicant's arguments concerning if Arystarkhova teaches an antibody against the α-subunit of porcine (Na^++K^+)-ATPase which has the same structure as the claimed antibodies, applicant is arguing a limitation not claimed.

The claims recite "a therapeutically effective composition comprising: a therapeutically active isolated and purified antibody which specifically binds to an amino acid sequence RSATEEEPPNDD (SEQ ID NO: 1) of the α-subunit of (Na^++K^+)-ATPase enzyme and cardiac isoforms thereof, wherein binding of the antibody to the amino acid sequence, RSATEEEPPNDD (SEQ ID NO: 1), of the α-subunit of (Na^++K^+)-ATPase increases myocyte intracellular diastolic and systolic calcium."

The claims do not recite any particular structure for the claimed antibody, only that it "specifically binds to an amino acid sequence RSATEEEPPNDD (SEQ ID NO: 1) of the α-subunit of (Na^++K^+)-ATPase enzyme and cardiac isoforms thereof, wherein binding of the antibody to the amino acid sequence, RSATEEEPPNDD (SEQ ID NO: 1), of the α-subunit of (Na^++K^+)-ATPase increases myocyte intracellular diastolic and systolic calcium."

Thus, the claimed antibody is defined by its binding specificity and its ability to increases myocyte intracellular diastolic and systolic calcium upon binding to the amino acid sequence

RSATEEEPPNDD (SEQ ID NO: 1) of the α-subunit of (Na^++K^+)-ATPase, not by its structure, per se.

Moreover, as stated by applicant at page 12, 1st paragraph of their Remarks, "Variant protein sequences can have the same physiological function."

With respect to applicant's arguments concerning if Arystarkhova teaches an antibody against the α-subunit of porcine (Na^++K^+)-ATPase which has the same function as the claimed antibodies, applicants argument is not found convincing for a variety of reasons.

Applicant attempts to distinguish the claimed antibodies from the teachings of Arystarkhova by asserting the VG4 antiobdy of Arystarkhova has "no specificity" while the Jianye-2 antibody "specifically binds to both native and denatured enzyme at the specific (Na++K+)-ATPase RSATEEEPPNDD site." (see Table 2 on page 11).

However, it is not at all clear what applicant is attempting to argue by this assertion.

Applicant does not explain which teachings of Arystarkhova demonstrate the VG4 antibody has "no specificity".

Furthermore, it is noted that the phrase "specifically binds" is described in the instant specification as follows:

> "…specifically (or selectively) binds" to an antibody or "specifically (or selectively) immunoreactive with," when referring to a protein or peptide, ***refers to a binding reaction that is determinative of the presence of the protein in a heterogeneous population of proteins and other biologics***. Thus, under designated immunoassay conditions, the specified antibodies bind to a particular protein at least two times the background and do not substantially bind in a significant amount to other proteins present in the sample. Specific binding to an antibody under such conditions ***may require*** an antibody that is selected for its specificity for a particular protein. ***For example***, polyclonal antibodies raised to marker "X" from specific species such as rat, mouse, or human can be selected to obtain only those polyclonal antibodies that are specifically immunoreactive with marker "X" and not with other proteins, except for polymorphic variants and alleles of marker "X". This selection may be achieved by subtracting out antibodies that cross-react with marker "X" molecules from other species. A variety of immunoassay formats may be used to select antibodies specifically immunoreactive with a particular protein. For example, solid-phase ELISA immunoassays are routinely used to select antibodies specifically immunoreactive with a protein (see, e.g., Harlow & Lane, Antibodies, A Laboratory Manual (1988), for a description of immunoassay formats and conditions that can be used to determine specific immunoreactivity). ***Typically*** a specific or selective reaction will be at least twice background signal or noise and more typically more than 10

to 100 times background." (See instant specification at page 18, 2nd paragraph, emphasis added).

Given this extremely relative, and therefore broad, description of "specific binding" in the instant specification, applicant has not convincingly argued that the claimed antibody is specific while the antibody of Arystarkhova is not specific.

Moreover, applicant's assertions that the antibody of Arystarkhova "Only binds to native pig and rat (Na^++K^+)-ATPase" and "Failed to detect denatured enzyme and SEQ ID NO: 1 site even at high concentrations" in Table I on page 11 of their Remarks are misleading.

The full teaching of Arystarkhova on this topic are as follows: "Although VG4 recognized native pig and rat kidney (Na^++K^+)-ATPase very well, it failed to detect SDS-denatured enzyme on Western blots even at high concentrations of antibody. This could be ascribed either to an epitope structure comprising discontinuous segments of the polypeptide or to a masking effect of the detergent. Treatment of SDS-solubilized (Na^++K^+)-ATPase with 90% methanol to remove SDS led to complete recovery of antibody binding without restoration of native (Na^++K^+)-ATPase structure, implying that the epitope must be composed of contiguous amino acids."

Thus, an accurate summary of the results of Arystarkhova in this regard is that the VG4 antibody binds an epitope of (Na^++K^+)-ATPase which "must be composed of contiguous amino acids" as demonstrated by Vg4 binding denatured (Na^++K^+)-ATPase in SDS-free conditions.

Applicant further attempts to distinguish the claimed antibodies from the teachings of Arystarkhova by asserting in the paragraph bridging pages 10-11 of their Remarks "Arystarkhova et al. has no idea where are the antigenic sites are located on the (Na++K+)-ATPase. They clearly indicate that 'The most likely targets for VG4 binding are short junctions between H l-H2 or H3 and H4 Transmembrane rods; a small loop connecting H5-H6; or uncertain portions of the C terminus following H7 or H8' (page 13696 of their J Biol Chem paper)."

However, applicant has taken this quote out of context. This is quote does not represent the conclusion of Arystarkhova's teachings, rather it represents the starting point.

The conclusion can be found in other quotes of the teachings of Arystarkhova such as "The evidence does not rule out unequivocally the possibility that the antibody also makes contact with residues from other extracellular loops of α or even the β subunit, but it does imply that residues within the Hl-H2 link are essential and sufficient for antibody binding." (column bridging paragraph on page 13700).

Moreover, in discussing the results of their efforts to "map the antigenic determinant within the α subunit of porcine NaK ATPase" (see page 13698, left column 1st paragraph and Figure

7) which is "evidently composed primarily of contiguous amino acids" using fine-specificity analysis Arystarkhova states, "[o]n either side of this cluster [referring to residues 114-EEEP-117], substitution in rat α1 of serine for Ala^{112} or proline for Gln^{119} reduces affinity slightly relative to that for pig αl." (see column bridging paragraph on page 13700).

Thus, Arystarkhova teaches that the Vg4 antibody binds an epitope composed primarily of contiguous amino acids QAATEEEPQNDNL of pig α1 NaK ATPase, wherein the "crucial" EEEP residues are conserved between rat α1 and porcine α1 NaK ATPase and Arystarkhova further teaches that Vg4 binds rat α1 NaK ATPase with an affinity slightly lower than its affinity for porcine α1 NaK ATPase.

Thus, in contrast to applicant's argument, the Vg4 antibody of Arystarkhova does recognize the amino acid sequence comprising RSATEEEPPNDD, i.e., Rat α1 NaK ATPase, wherein Arystarkhova teaches that residues EEEP, which are conserved between the rat α1 and pig α1 NaK ATPase, are crucial for Vg4 binding.

With respect to applicant's argument at page 13, 1st paragraph of their remarks that "there is no teaching or suggestion, that the antibodies taught in Arystarkhova et al. have the same positive inotropic effects in cardiac myocytes, as Applicant's claimed antibodies do," this argument is also not found convincing for a variety of reasons.

Applicant supports their argument by repeating the teachings of Arystarkhova appearing at page 13699 of the J Biol Chem. publication that the Vg4 antibody enhances ouabain binding to purified Na,K-ATPase, which was contrary to expectations since the H1-H2 loop of the Na,K-ATPase had been implicated in ouabain binding in the art.

Moreover, applicant emphasizes the teachings of Arystarkhova at page 13701 of the J Biol Chem. publication that "In theory, it should be possible to produce other antibodies to the same sites which will reduce cardiac glycoside binding by stabilizing a different conformation."

Based on these teachings applicant concludes (emphasis in the original), "Thus, to one of ordinary skill in the art, the fact that the prior art teaches that VG4 has binding affinity to the EEEP tetrapeptide sequence does not give any indication of whether the antibody would also increase positive inotropic activity in cardiac tissue." (see remarks page 14, 1st paragraph).

However, applicant's argument is not found convincing because it does not account for the teachings of Arystarkhova which indicate that not only does the VG4 antibody have "binding affinity to the EEEP tetrapeptide sequence" BUT ALSO that Vg4 increases "positive inotropic activity in cardiac tissue".

In particular, as disclosed in the instant specification at page 1, 3rd paragraph, and as has been long known in the art, "The most probable explanation for the direct positive inotropic

effect is the ability of cardiac glycosides to inhibit membrane-bound (Na^++K^+)-ATPase-activated adenosine triphosphatase [(Na^++K^+)-ATPase]."

As argued by applicant, Arystarkhova teaches an antibody that binds to the pig α1 Na,K-ATPase H1-H2 loop and "inhibits enzyme activity up to 50%" (see applicant's remarks on page 11, iv and Table I).

Thus, the properties of the antibody of Arystarkhova are consistent with the antibody increasing "positive inotropic activity in cardiac tissue".

It is the examiner's position that the teachings of Arystarkhova are sufficient to establish the reasonableness of the Examiner's belief that the functional limitation is an inherent characteristic of the prior art, consistent with Ex parte Skinner, 2 USPQ2d 1788 (BPAI 1986) as put forth by applicant on page 15, 2nd paragraph of their remarks.

In conclusion, the instant claims stand rejected as anticipated by Arystarkhova, as evidenced by Bost, Bendayan and the instant specification.

Since the Office does not have a laboratory to test the reference antibodies, it is applicant's burden to show that the reference antibodies fail to specifically binds to an amino acid sequence RSATEEEPPNDD (SEQ ID NO: 1) of the α-subunit of (Na^++K^+)-ATPase enzyme and cardiac isoforms thereof, wherein binding of the antibody to the amino acid sequence, RSATEEEPPNDD (SEQ ID NO: 1), of the α-subunit of (Na^++K^+)-ATPase increases myocyte intracellular diastolic and systolic calcium. See *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983); *In re Fitzgerald* et al., 205 USPQ 594 (CCPA 1980).

It is noted that claim 1 recites a "therapeutically effective composition comprising…an antibody" with certain properties. However the instant specification does not provide explicit guidance or direction for what a "therapeutically effective composition comprising…an antibody" with certain properties must include, other than teaching that the antibody compositions of the invention are often formulated with pharamceutically acceptable carriers such as water (see instnat specificaiton, page 26, 2nd paragraph to page 28, 2nd paragraph).

Moreover, claims 3, 4 and 7 recite "The therapeutically effective composition of claim 1, "wherein binding of the antibody…exerts a positive inotropic effect...in a heart for treatment or prevention of heart failure" or "wherein the antibody is administered to a patient in an effective therapeutic amount to for treatment of heart failure or muscle contractile disorders."

The "wherein..." recitation in claims 3, 4 and 7 is an intended use of the claimed antibody, and if the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey , 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

11. No claim is allowed.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZACHARY SKELDING whose telephone number is (571)272-9033. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen O'Hara can be reached on 571-272-0878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zachary Skelding
Patent Examiner
January 2, 2009

/Michail A Belyavskyi/
Primary Examiner, Art Unit 1644